

J2 TECHNICAL ARTICLE

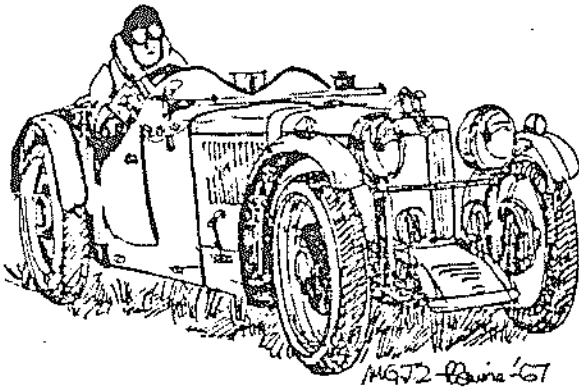
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From Octagon Heaven

Source: Unknown

Thanks Larry Lee



END FLOAT IN M, D & J ENGINES

Generally oil leak control in front and rear main bearings is handled by oil return threads - in the front by threads on the crankshaft pulley and in the rear by threads on the rear main bearing sleeve. This sleeve also has an oil slinger built onto it.

REAR Prior to babbitting the rear bearing in the bell housing, take the sleeve and the ball housing to a machine shop. Have the oil return threads cured of any eccentricity from sleeve center and have the threads followed with a "V" cutter. Then have the shop cut away perhaps 1/16" of the housing - as shown on the drawing. This removed metal is replaced with a sleeve of babbitt, copper, or brass, etc., and will rebuild the badly mated surface for the oil return threads. Clearance between this sleeve and the threads is .002" - .003".

You can help things considerably by careful grinding to open up the rear main oil return passage - much like polishing and grinding inlet ports.

FRONT Oil leak control from the front main is not so simple to handle. Gather up for the machine shop the crankshaft pulley and the front cover to the engine nose piece (dynamo base). As before, have the pulley threads cured of eccentricity and then followed by a "V" cutter.

Then have a sleeve of hard steel made and inserted into the worn hole in the front cover. (see drawing) Note that this sleeve is part of a thrust surface and is therefore held in place by a shoulder. As before, .002" - .003" clearance between threads and sleeve is about right.

To frost the cake, have a new hard bronze thrust washer made approximately 1/4" larger in diameter than the standard one; this will act as something of an oil slinger.

END
FLOAT

Because adjustment of end float has a bearing on oil leak control, let's take a look at it. The following may or may not parallel works procedures, but the results are motoring nectar.

Play in the front main Ball Bearing should not exceed .003". Replace it if it does. This maximum of .008" is then restricted to perhaps .004" through the two thrust washers against the front nose cover. Rearward thrust is taken by the front main Ball Bearing.

(Continued BACK SIDE)

piece and its cover, and the wide steel shims are fitted between the block and the nose piece - that is, after lining up the vertical drive assembly. (Another and horrid subject entirely!)

Regardless - with thrust washers and front cover fitted, and the crankshaft pushed to the rear, measure between the nose piece and its cover; also measure between the two thrust washers = If the latter is .000", adding .004" to the nose piece to front cover measurement yields the shim thickness. In the rare case of space between the thrust washers, you must add a homemade shim between the bevel and spiral gears.

All this diddling takes the forward thrust off the front main bearing and eliminates a nasty resonant vibration sometimes appearing at 2300 RPM.

Thus, in order: Align the vertical drive assembly, shim the front cover to the nose piece, then fit the crankshaft pulley.

PULLEY SHIMMING

When fitting the pulley, be sure you haven't reduced the end float. If you have, install shims behind the pulley, just forward of the bronze thrust washer. When properly shimmed and with the crankshaft pushed to the rear of its float, the crankshaft pulley will just barely clear the front cover.

Pulley shimming requires a shim of outside diameter no larger than the keyed distance column around which the two thrust washers mount. This distance column is slightly thinner than the two thrust washers combined/ Its use normally will eliminate having to shim the pulley - but not always! I sometimes think that early MG engines were built from a basket of unexplainable shims and a few out-of-balance moving parts.

A final word - Be sure to nestle the front motor mount in two pieces of rubber; otherwise you may warp the front nose cover and destroy your good work.

